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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,079

04/13/2004

Tim Frost

09401-0104

3976

3490 7590 12/04/2006

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EXAMINER

BASTIANELLI, JOHN

ART UNIT

PAPER NUMBER

3753

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/823,079

Applicant(s) ^{NI}

FROST, TIM

Examiner

John Bastianelli

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3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 27-34 is/are pending in the application.
- 4a) Of the above claim(s) 31-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 22 and 27-30 is/are rejected.
- 7) ☒ Claim(s) 20, 21 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/13/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in the reply filed on July 31, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "36" and "48" have both been used to designate the spring. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "64" has been used to designate both channel and flange on page 8. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should

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include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the shape memory alloy member especially whatever the applicant is claiming in claim 3 (the examiner cannot make out Figs. 5 and 6 whatsoever) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Suggestions

6. Claims 3 and 6-7 have the following informalities: In claim 3, line 1, “claim2” should be “claim 2” and “allow” should be “alloy”. In claims 6-7, “the end plug” has no antecedent basis as it was previously mentioned as just “the plug”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-12, 22 and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hines et al. US 6,464,200 B2.

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Hines discloses a valve assembly comprising a plug 12 having a valve seat at a distal portion of the plug, said plug having an outer perimeter defining a first cross sectional area; a holder 22 and 30 cantileveredly connected to the plug; an actuator 14 operably connected to the holder; a poppet 20 connected to the actuator, said poppet driven by the actuator intermediate an open configuration wherein a fluid passes intermediate the valve seat and the poppet and a closed configuration wherein the poppet forms a seal relative to the valve seat; wherein the holder, actuator and poppet are positioned within a second cross sectional area parallel to the first cross sectional area when in at least one of the open and closed configurations, said second cross sectional area bounded by a parallel cross section of the first cross sectional area. The actuator has a plurality of linearly moveable shape memory alloy members in that the total movement is greater. The actuator opens in response to an electrical signal and a biasing member 34 closes the valve. The end plug has a boss having the valve seat with a base that contacts the face of the end plug and having a body, neck and head and a channel with the holder having a flange and the face has a cross sectional area larger. The valve seat is located along an axis of the end plug and the poppet and is linearly driven. A housing extends about the holder, poppet, and actuator. The holder has a shoulder (top part of holder is connected to the spring) and biasing member to bias close the valve. The actuator is connected to the holder by a clip 40 and 42, the holder has a shoulder having a biasing member and the shoulder is intermediate the clip and biasing member.

9. Claims 1-12, 18-19, 22 and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al. US 2002/0130284 A1.

Johnson discloses a valve assembly comprising a plug 26 having a valve seat at a distal portion of the plug, said plug having an outer perimeter defining a first cross sectional area; a holder 36

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or 22 cantileveredly connected to the plug; an actuator 50 and 52 operably connected to the holder; a poppet 34 connected to the actuator, said poppet driven by the actuator intermediate an open configuration wherein a fluid passes intermediate the valve seat and the poppet and a closed configuration wherein the poppet forms a seal relative to the valve seat; wherein the holder, actuator and poppet are positioned within a second cross sectional area parallel to the first cross sectional area when in at least one of the open and closed configurations, said second cross sectional area bounded by a parallel cross section of the first cross sectional area. The actuator has a plurality of linearly moveable shape memory alloy members in that the total movement is greater. The actuator opens in response to an electrical signal and a biasing member 16 closes the valve. The end plug has a boss having the valve seat with a base that contacts the face of the end plug and having a body, neck and head and a channel with the holder having a flange and the face has a cross sectional area larger. The valve seat is located along an axis of the end plug and the poppet and is linearly driven. A tubular housing 22 extends about the holder, poppet, and actuator and a second end plug 28 is connected to a distal end of the tube. The actuator is connected to the holder by a clip (holder is 22 and 58 for these claims), the holder has a shoulder having a biasing member and the shoulder is intermediate the clip and biasing member.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 12-14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines et al. US 6,464,200 B2 in view of Schloss US 6,050,808.

Hines discloses a housing 150 that is seen as tubular but lacks the holder in the housing. Schloss discloses a housing (Figs. 2 and 3) that extends about everything having an electrical connection 17 exterior to the housing communication with the actuator from an ignitor 11 providing a gas supply to a burner. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the housing enclose everything in order to keep everything from being damaged by external elements.

12. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines et al. US 6,464,200 B2 in view of Schloss US 6,050,808 in view of Fochtman et al. US 6,392,865.

Hines lacks electrical input of 2.5-3.1 Amps. Fochtman discloses valve actuation between 2-6 amps. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the valve actuation of Hines between 2.5-3.1 amps as disclosed by Fochtman in order to provide a valve that is actuated with little power.

13. Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hines et al. US 6,464,200 B2 in view of Schloss US 6,050,808 in view of Fochtman et al. US 6,392,865.

Hines lacks electrical input of 2.5-3.1 Amps. Fochtman discloses valve actuation between 2-6 amps. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the valve actuation of Hines between 2.5-3.1 amps as disclosed by Fochtman in order to provide a valve that is actuated with little power.

Allowable Subject Matter

14. Claims 20-21 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: The primary reason for the allowance of claim 20 is the second plug having a passage, an outlet, a post, and a seal in combination with the valve as cited in claims 19/18/12/1. The primary reason for the allowance of claims 21-23 is the valve assembly having a connector connecting the actuator to the poppet in which the connector has a hook, opposing barbs and the poppet has a cavity with opposing slots in a resilient sleeve in combination with the valve as cited in claim 1.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Willey, King, Dietiker, Genbauffe, Fornasari, and Kunz disclose valve assemblies with actuators and holders.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Bastianelli whose telephone number is (571) 272-4921. The examiner can normally be reached on M-Th (8-6:30).

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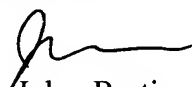
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JB

November 25, 2006



John Bastianelli
Primary Examiner
Art Unit 3753